Also look also at the buildings around yours. A taller URM can dump its walls through your roof, even though yours is a more modern building. This might affect where you would want to take cover.

Even if it doesn't collapse, your building may not be useable afterwards. If it's badly damaged it could be razed—contents and all. Or fire sprinklers or broken pipes may have caused water damage. Asbestos may have been exposed. If you can't go right back to business, survival becomes a critical issue. Determine beforehand what records are important enough for you to keep elsewhere. If you're a professional, then you should imagine what you would do if you couldn't return to your office—client files, research notes, libraries, if you lost them, how could you operate? Now is the time to think about what records are essential—customer lists, inventories, accounts payable, employee data, tax information? How can you back them up?

If you are an employer, discuss these safety measures with your employees. Decide how they might communicate with their families after an earthquake. You might even practice. Practice taking cover, practice evacuation (remember to agree to meet somewhere). Practice yelling "Earthquake! Take cover over here!" You may feel silly, but you sure won't when the earthquake happens.

WHAT IF IT'S A REALLY BIG EARTHQUAKE?

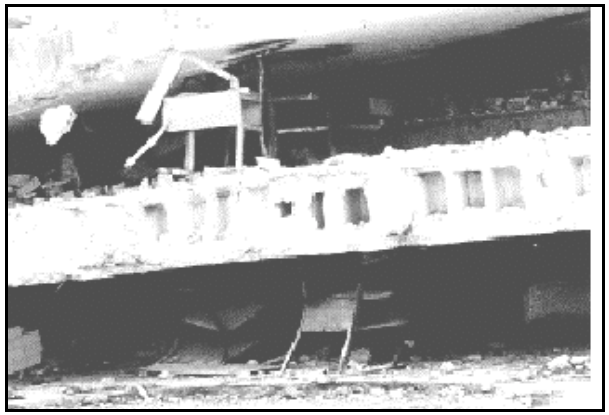
None of this guarantees that you're going to survive. Let's face it, if it's a bad earthquake, you may be killed or injured. But this could happen to you if you're in a brand-new, fully code-compliant building too. The difference is that URMs are more susceptible to moderate quakes and they suffer more in large quakes.

If it's more than a moderate quake, you may experience more than bricks falling outside. An outer wall may collapse—but chances are that the rest will stay intact. If it's a strong earthquake, the walls could pull away from the joists supporting roof and floors. This is not pleasant to contemplate if you are inside.

But remember that even modern buildings have collapsed in recent earthquakes. And not *all* URMs collapse even in big earthquakes .

Consider that in Idaho the odds favor a moderate earthquake. That means that the odds favor light damage over collapse. If you are prepared for a moderate quake, you are also prepared for a strong one, because knowing what to do can save your life in either case.

Duck and cover is the most effective response to shaking, even in catastrophic quakes. Look at the school in Mexico City after the devastating 1985 quake. Notice that there are no walls—but the school desks are holding up the floors that collapsed on them.



FOR MORE INFORMATION

For more information about Idaho's earthquakes and how to survive them:

Idaho Bureau of Disaster Services
4040 Guard Street
Boise, Idaho 83705-5004
208-334-3460
email: mitigation@bds.state.id.us

Development and production of this brochure has been financed in part with funds from the Federal Emergency Management Agency (FEMA). Strangely enough, though, the contents do not necessarily reflect the views and policies of FEMA. And neither FEMA nor the Bureau of Disaster Services can guarantee that following the information in this brochure will prevent injury or loss of life in the event of an earthquake. Costs associated with this brochure are available from the Bureau of Disaster Services in accordance with I.C. 60-202. Printed on recycled paper. 8-99

IDAHO EARTHQUAKE Action

Earthquake Safety for People Who Work in Old Masonry Buildings

IDAHO EARTHQUAKE Action

IDAHO IS FULL OF THEM!

Old brick or stone buildings—they're known as Un-Reinforced Masonry or URMs—are the mark of downtown in nearly every community: fraternal halls, banks, city halls, county courthouses, schools, churches, and old warehouses revitalized to restaurants, shops, and malls. Many Idahoans work in them, shop in them, eat in them, or learn in them. They're picturesque, with stonework, ornament, and detail. But because they were built before modern building codes, they weren't made to withstand earthquakes. They're dangerous because there are so many of them, because they usually have a high occupancy, and because they can fail in even *moderate* shaking.

That doesn't mean they're death traps. But they are likely to suffer damage in even moderate earthquakes. We don't want to tear them down, and we can't afford to fix them all. So what can we do? Live with them, knowing that they are hazardous but also knowing that there are things we can do to improve our chances of survival.

It does mean that, in our great Western tradition, you must take some responsibility for your own safety. You yourself must take responsibility for the continuity of your business.

Fact: There is no such thing as an earthquake-proof building. But some kinds are stronger than others. Knowing what to do can save your life, the lives of others, and it can help you recover more quickly if your business is housed in a URM.

TYPICAL HAZARDS

URMs are heavy. So when the earth below them moves, they start to move in some direction and they have a tendency to keep moving in that same direction. When the ground moves in another direction, the walls of the URM can't change direction quickly and they may break and fall. Where they break depends on the way the building is built and how strong the shaking is.

Some older URMs do not secure the floor or roof to the wall—there is just a pocket in the bricks for the joists. If the shaking is severe, the roof and floor members may come out of the pockets, resulting in the roof or floor falling. Some URMs—hotels and offices, for instance, have many interior walls that will keep floors and ceilings from collapsing. Exterior walls can fall away entirely, but the core of the building remains.

Many URMs have a parapet—a wall that extends above the roof two to six feet and is often decorated with brick or stone details. Parapet walls may break at the roof line, showering bricks, stone, or ornaments on the sidewalk below. Or on the building next to it. Or even on the roof. Masonry falling on the sidewalk poses an obvious threat to pedestrians. Masonry falling through a roof can be dangerous to people inside as well.

FOUR RULES FOR SURVIVAL

When an earthquake occurs, there are four rules for survival. Three are for inside and one is for outside.

Rule 1 (inside): Look for a safe place—away from the outside walls of the building, away from windows. It will take you a few seconds to figure out that the rumbling you hear is not an airplane buzzing the building and another couple to locate a safe spot and get to it. Do not run outside! It could take you ten or so seconds to get outside, and that is just when the parapets will be coming down. If you think you can move faster than that, remember that it's hard to keep your balance in an earthquake—the ground is moving under you, rapidly enough to make you nauseous! And just to make things more confusing, the lights may go out or the fire alarm sound or the fire sprinklers may start.

Rule 2 (inside): Duck and cover. Take cover under a table or a desk. No tables or desks? Head for an internal wall, duck under a sturdy chair, anything that's going to protect you from falling things. Falling things include cabinets, shelves, and bookcases—if you stay away from them they can't fall on you. Falling things also include air-conditioning diffusers, suspended ceilings, light fixtures, suspended space heaters, and water pipes.

And because URMs are high-occupancy places, there are probably others about—and they're confused and frightened. Most people are not prepared to think about earthquakes. If you can tell them what's happening and tell them what to do, you could save their lives. "It's an earthquake!" And to people near you: "Here, take cover under this table!" And to those who are staggering for the door: "No—stay inside, it's safer in here!"

Rule 3 (inside): Once the shaking has stopped, get out. There will be aftershocks, and they can bring down a damaged building. You can't always tell if your building has been damaged. It may appear to be okay or to have suffered just minor damage. But with a URM, you don't want to take chances. Get out. Once again, if there are others around you, you may have to tell them what to do. Guide them out. Don't try to use an elevator—even if it's working, it may not be for long. And you don't want to stop midway between floors—no lights, no restroom, and more shaking.

Rule 4 (outside): Get away from the sides of buildings. If you're on a sidewalk, duck in a doorway to protect yourself from falling bricks, glass, or signs. If there's no doorway, take your chances out on the street (Cars may stop for you—falling brick won't). And don't think that because you're in a car you're safe. Falling masonry can flatten a car.

NOW IS THE TIME TO PLAN

To be able to apply Rules 1, 2, 3, and 4 you need to make some plans. Be aware of your surroundings. Know where "safe" spots are. Attach to walls or position bookshelves and file cabinets so they can't tip over. Restrain critical items like computers or antiques. Plan escape routes, especially if you are not on the ground floor. Make a floor plan. Check the exits for things that could block them. Evaluate external stairs—what are they attached to? Is natural gas used in your building? If so, fire should enter into your planning. (In Kobe in 1995 and San Francisco in 1906, fire destroyed what the earthquake didn't.)